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EXAMINER				
COLE, LAURA C				
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1744				

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DATE MAILED: 11/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/047,333

Applicant(s)

FERBER ET AL.

Examiner

Laura C Cole

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-6,8-18,20-22 and 24-34 is/are rejected.
- 7) ☒ Claim(s) 3,7,19 and 23 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the armature (Claim 1 Line 12 and Claim 33 Line 12) or specifically the E-shaped armature (Claims 8 and 24) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

2. Claims 15, 16, 31, and 32 are objected to because of the following informalities: The requirements that the brush head creates an acoustic pressure of less than 1.5 kPa and a shear stress of substantially less than 50 Pa does not appear to be supported by the specification. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 20 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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Claim 20 recites the limitation "the elongated shaft" in Line 2. There is insufficient antecedent basis for this limitation in the claim.

4. Claim 33 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 33 Lines 9, 13, 15, and 19 recite the limitation of a "driveshaft/torsion bar" which is unclear. Claims 1 and 17, the specification, and the drawings support that the driveshaft and the torsion bar are two separate and distinct structural elements.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 2, 4-6, 9-12, 17, 18, 20-22, 25-28, 33, and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Craft et al., USPN 5,613,259.

Craft et al. disclose the claimed invention including a brush head assembly (24), a housing (20), a frame (as shown in Figure 8B, the portion holding batteries (66)), a power supply contained within the housing (66; Column 5 Lines 2-7), an electric coil and core (Column 5 Lines 10-12) secured relative to the frame (see Figure 8B) and electrically connected to the power supply through a control circuit (Figure 14) that creates an alternating flow of current (Column 3 Lines 6-15), further there is an elongated driveshaft (32) having a distal end connected to the brush head assembly

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(124) and an internal end that is disposed within the housing (see Figure 4A, 8A), a torsion bar (Column 7 Lines 4-5), an armature having first and second ends and being connected to the driveshaft (72; see Figure 4A), at least one magnet arranged on the armature (92 or 96) aligned relative to a central axis of the driveshaft (see alignment in Figure 4A), the magnet in a radially spaced location relative to the central axis (again, as shown in figure 4A the magnet are "relatively spaced" to a location), the alternating flow of current in the coil at a frequency causes the armature to be alternatively attracted to a coil and core (Column 7 Lines 23-61; Column 8 Lines 7-19) causing the torsion bar to twist and cause the driveshaft to oscillate (Column 7 Lines 1-5). The frame appears in the figures to be one piece. A bearing journals the internal end of the elongated shaft (86). The brush assembly has a driven shaft (100) that is detachable from the drive shaft (Column 5 Lines 50-52; Column 9 Lines 16-18) without opening the housing and effecting the coil and magnets (Column 5 Lines 50-64). The armature includes first and second magnets (94 and 96) and the armature supporting the first and second magnets on a flat plate portion on which the magnets are disposed (Figure 4A) and a flange extending perpendicularly relative to the flat plate portion, wherein the driveshaft is secured to the flange (see Figure 4A, flange portion between (72) and (32) extending perpendicularly). There is a charging coil (64) contained within the housing (Figure 6) in combination with a charging base (68), wherein a charging circuit is provided to charge the power supply (Figure 14 (163)) and wherein placing the brush in the base ends a cycle (Figure 14; Column 7 Lines 28-38). Further the toothbrush comprises a control switch (38) to select one of a plurality of operational speeds (the

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speeds being zero when the brush is off or to the operating speed when turned on).

The brush head has a plurality of bristles (102), a driven shaft (mentioned above, 100), a driven shaft holder (104), the driven shaft drives the brush head to oscillate (Column 5 Lines 46-49; Column 9 Lines 15-28), and the attachment end of the brush head body has a locking element and the toothbrush body having a second locking element that cooperates to retain the brush head body on the toothbrush body (Column 5 Lines 60-65).

6. Claim 33 is rejected under 35 U.S.C. 102(b) as being anticipated by Giuliani et al., USPN 5,263,218.

Giuliani et al. disclose the claimed invention including a brush head assembly (as shown in Figure 1 or (128)), a housing (12), a frame (the inside of the case can support mounting such and is considered to be a "frame", Column 4 Lines 24-26, 38-40), a power supply contained within the housing (38), an electric coil (36), an elongated driveshaft/torsion bar (14), an E-shaped armature (28), at least one magnet arranged on the armature having ends (30 and 31), the magnet is aligned relative to a central axis (Figure 1), the magnet being located at a radially spaced location relative to the central axis (Figure 3), wherein the alternating flow of current causes the ends of the armature to be alternatively attracted to the coil and causing the driveshaft/torsion bar to oscillate (Abstract).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 8 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Craft et al., USPN 5,613,259 in view of Giuliani et al., USPN 5,263,218.

Craft et al. and Giuliani et al. disclose the claimed invention including all elements mentioned above. Craft et al. does not provide an E-shaped coil armature.

It would have been obvious for one of ordinary skill in the art to modify the armature arrangement of Craft et al. for the E-shaped armature that Giuliani et al. teach in order to reduce the space in which the entire arrangement resides within the brush housing.

8. Claims 13 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Craft et al., USPN 5,613,259 in view of Giuliani et al., USPN 5,784,742.

Craft et al. discloses all elements above, however does not provide a teaching of including LED's to indicate a parameter of brushing.

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Giuliani et al. provides a teaching of including a responsive signal such as a visual signal through an LED to allow the user to actively monitor brushing behavior and to stay within an allowable threshold (such as speed wherein speed has a relationship to loading). See Column 8 Line 62 to Column 9 Line 5.

It would have been obvious for one of ordinary skill in the art to implement LED's to the invention of Craft et al. as Giuliani et al. teach so that the user will know whether the speed is within a sufficient range to brush teeth properly.

9. Claims 14-16 and 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Craft et al., USPN 5,613,259 in view of Woog et al., USPN 5,934,908.

Craft et al. disclose all elements above however does not provide a teaching of specific speed, pressure, or stress parameters.

Woog et al. discloses that in order to arrest periodontal disease, gum recession, gingivitis, periodontitis, to dislodge significant amounts of bacterial plaque under the gum line, to polish and whiten teeth, and based on scientific studies there are certain parameters to obtain maximum efficiency (Column 3 Lines 6-45). The parameters include a speed of 1.5 m/s (Column 3 Lines 46-50), an acoustic pressure of 1.5 KPa and a shearing stress of 50 Pa (Column 3 Lines 59-63).

It would have been obvious for one of ordinary skill in the art for Craft et al. to achieve these various parameters to be most efficient in brushing and cleaning teeth as Woog et al. teach.

***Allowable Subject Matter***



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10. Claims 3, 7, 19, and 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The following is a statement of reasons for the indication of allowable subject matter:

None of the prior art made of record discloses that the torsion bar is clamped by an anchoring plate to a frame, that the torsion bar is secured to an armature between first and second magnets, or that the driveshaft is connected at the internal end of the armature.

### ***Conclusion***

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura C Cole whose telephone number is (703) 305-7279. The examiner can normally be reached on Monday-Thursday, 7am - 4:30pm, alternating Fridays. After December 17<sup>th</sup>, the Examiner's office will be located at the new USPTO site in Alexandria, Virginia. After this projected date, you may reach Examiner Laura Cole by phone at 571-272-1272 or by fax at 571-273-1272.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Warden can be reached on (703) 308-2920 (or after December 17<sup>th</sup> may be reached at 571-272-1281). The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

*LCC*  
LCC

06 November 2003

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